Defense Modeling & Simulation Office
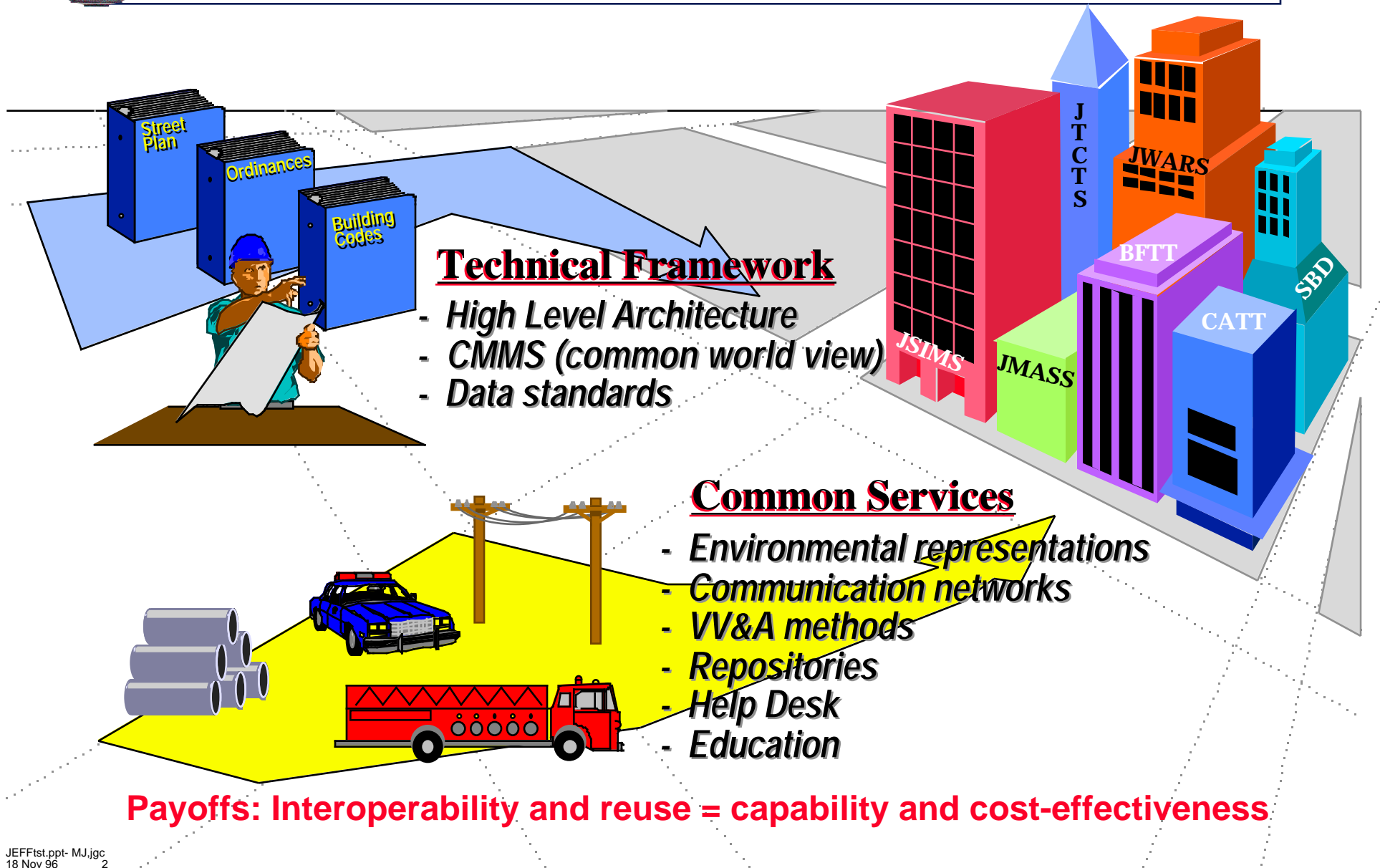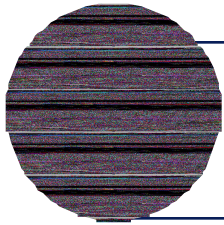
Data Standards Program

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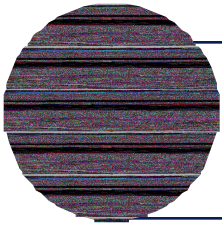**jsheehan@msis.dmso.mil**

DoD M&S Strategy:
An Analogy to City Planning

Technical Framework

- *High Level Architecture*
- *CMMS (common world view)*
- *Data standards*

Common Services

- *Environmental representations*
- *Communication networks*
- *VV&A methods*
- *Repositories*
- *Help Desk*
- *Education*

Payoffs: Interoperability and reuse = capability and cost-effectiveness

Data Standards Project Priorities

- **HLA FOM/SOM content standards and data interchange formats, with immediate focus on the IEEE-1278.1 PNP Reference FOM.**

- **JSIMS and JWARS related CMMS integration and interoperability.**

- **Scenario generation with Order of Battle instance data interchange**

Priority Data Standards Products
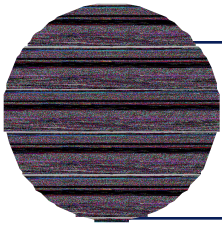
1. Common Semantics and Syntax (CSS):

- standard naming conventions in a common lexicon
- entity-based and action-based data element dictionaries
- common taxonomies within identified application clusters
- drawn from existing standards wherever possible
- supporting tools for capture, matching, and mapping

Is the the logical structure and content (meaning) of any specific model or data element using a standard recognized by all.

2. Data Interchange Formats (DIF):

- for HLA FOM/SOM development
- for HLA Runtime Initialization Data (RID)
- for CMMS Entities, Action, Tasks, and Interactions (EATI)
- for Order of Battle instance data
- for environmental data (SEDRIS)

Is the physical realization (BNF, SQL, bits & bytes) logical CSS content which programmers employ to actually interchange data.

Supporting Data Standards Products

3. Authoritative Data Sources (ADS):

- identifies standard sources of M&S data
- authority designation by Services, Components, and Agencies
- registration on (C)MSRR

Is the primary means for identifying authoritative data for re-use.

4. Data Quality practices(DQ):

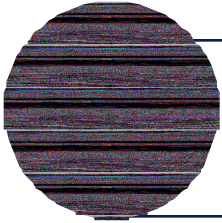- standard VV&A/C pedigree for recording data quality
- integrated VV&A/C guidelines for data examination
- platform-independent DAVIE toolset

Is the standard "nutritional food label" for M&S data.

5. Data Security practices(DS):

- integrated classification and releasability meta-data
- standard protection and access utilities

Provide the means to enforce a range of protection/release policies.

DE Process

Requirements Manager

Endorse

Authorize

Specify

Data Producer
Design
Create
Convert
Integrate

Verify

Validate

Data Quality

Certify

Validate

Data Consumer
Locate
Extract
Evaluate
Employ

Pedigree

Register

Repository Manager
Catalog
Configure
Store
Purge

Release

Common Semantics and Syntax

- Common Terms of Reference
- Standard Definitions
- Logical Relationships using Information Elements

Data Model   Data Dictionary

Data System Architecture

- (C)MSRR provides Physical Access and Network Connectivity
- Families of Interfaces
- Hardware/Software Platforms

DE Products

- Authoritative Data Sources
- Data Interchange Formats
- Data Quality
- Data Security